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| 10/692,666 | 10/24/2003 | Junxing Shen | ARC-P128 | 9958 |

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| EXAMINER | |
|---|---|
| THOMAS, MIA M | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/692,666 | SHEN ET AL. | |
| | Examiner | Art Unit | |
| | Mia M. Thomas | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,11-13 and 16* is/are rejected.

7)☐ Claim(s) *5-10,14,15 and 17-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 September 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is responsive to applicant's remarks received on 24 September 2009. Claims 1 to 20 remain pending. A complete response to applicant's remarks follows below.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicolas (US 20020172417 A1) in combination with Cornog et al. (US 20030035592 A1) and further in view of Pollard (US 2004/0028271 A1).

**Regarding Claim 1:** (previously presented): Nicolas teaches method for a processor to color match a first image and a second image, wherein a first region of the first image and a second region of the second image overlap ("Only pixels of the first set of pixels are used to generate the first and the second histogram. It is assumed that based on their color, these pixels are located in regions which might correspond to relevant objects of the scene." at paragraph [0033]) the method comprising:

generating a first histogram of the first region ("a first histogram generating means for generating a first histogram;" at paragraph [0030])

generating a second histogram of the second region ("a second histogram generating means for generating a second histogram" at paragraph [0031]);

determining corresponding pixel values from the first and the second histograms ("It is assumed that based on their color, these pixels are located in regions which might correspond to relevant objects of the scene." at paragraph [0033])

determining at least one parameter of that best matches the corresponding pixel values ("The receiving means 302 can get notified or has capabilities to extract information from the video signal about the type of scene that has been imaged in order to set the appropriate range of color values of the image display apparatus 300. E.g. in the case of a football match the predetermined range of colors should match the colors of grass." at paragraph [0068]) and

Cornog teaches color matching the second image to the first image by applying the at least one parameter to the second image ("A set of motion vectors then is calculated to describe the motion between the histogram of the first sequence and the histogram of the second sequence. Thus, the motion vectors so determined indicate, for each pair of Cr, Cb values, another Cr, Cb value to which it maps. This mapping may be used to load a map for secondary color correction to allow one or more images in one of the sequences, or in another sequence, to have colors corrected to match one or more images in the other sequence." at paragraph [0089])

Pollard teaches an optoelectronic conversion function (OECF) ("The processing itself may be performed according to the steps outlined in the flow-chart of FIG. 7. These include a pre-processing stage 92, which may typically include correction of the OECF (opto-electronic

conversion function) of the sensor and white-balancing to compensate for variations in illumination." at paragraph [0108]).

It is obvious to one of ordinary skill in the art that an OECF function is well known in the art and was also known in the prior art at the time of the invention.

Nicolas does not specifically recite the phrase "color matching". Nicolas does however teach color classification which equally corresponds with color matching as is well known in the color image processing art. The image processing performed by the apparatus and method of Nicolas is such that this invention is in the same field of pattern recognition and/or classification using color processing, thus one of ordinary skill in the art could easily substitute an algorithm or function such as OECF to obtain the same predictable results of color matching or color classifying images using a function that best matches or corresponds with pixel values.

The claimed limitations would have been obvious because the skilled artisan could have easily substituted the OECF function for any algorithm or routine as taught by the combination of Nicolas, Cornog and Pollard and this would have yielded the same predictable results to the skilled artisan to obtain the color matching results of the first and second images.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as taught by Nicolas in combination with Cornog and Pollard by known methods with no change in their respective functions, and the combination of those teachings would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Nicolas, Cornog and Pollard are combinable because they are in the same field of color image processing and histogram image processing with specific regards to pattern recognition and combining image portions.

The suggestion/motivation for combining the teachings of Nicolas, Cornog and Pollard would have been to classify pixels via histogram processing and based on that classification, color matching, determining whether the pixels belong to texture or to flat regions by comparing 2 (two) histograms, one taking into account all the pixels with the color in the predetermined range of color values, the second one counting only these same pixels if their luminance value differs more than a given threshold form the luminance of their neighbor, at abstract Nicolas.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nicolas, Cornog and Pollard to obtain the specified claimed elements of Claim 1.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicolas (US 20020172417 A1) in combination with Cornog et al. (US 20030035592 A1) and further in view of Pollard (US 2004/0028271 A1) and Gennetten (US 6621923 B1).

**Regarding Claim 2** (original): Nicolas, Cornog and Pollard in combination teach all the claimed elements as rejected above. Nicolas, Cornog and Pollard in combination do not expressly teach removing a percentage of the overlapping pixels with the greatest difference in brightness.

Gennetten on the other hand teaches removing a percentage of the overlapping pixels with the greatest difference in brightness ("A histogram can be shifted to the left by subtracting a value from each pixel in the image." at column 4, line 1+)

The skilled artisan would easily identify "adjusting the range of the histogram to stretch or line up the prominent featured of each of the histograms" with "removing a certain percentage of overlapping pixels based on brightness" as is well known in the art as shown at column 3, lines 38-40. Gennetten teaches that "Gamma Correction" is well known in the art.

Nicolas, Cornog, Pollard and Gennetten are combinable because they are in the same field of color image processing and histogram image processing with specific regards to pattern recognition and combining image portions.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as taught by Nicolas, Cornog, Pollard and Gennetten by known methods with no change in their respective functions, and the combination of those teachings would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nicolas, Cornog, Pollard and Gennetten to obtain the specified claimed elements of Claim 2.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicolas (US 20020172417 A1) in combination with Cornog et al. (US 20030035592 A1) and further in view of Pollard (US 2004/0028271 A1) and Benn (US 5734740 A).

**Regarding Claim 3** (original): Nicolas, Cornog and Pollard in combination teach all the claimed elements as rejected above. Nicolas, Cornog and Pollard in combination do not expressly teach binning a plurality of numbers of pixels that have respective pixel values in respective regions.

Benn teaches said generating a first histogram comprises recording in a first plurality of pixel value bins a first plurality of numbers of pixels that have respective pixel values in the first region ("The histogram is subsequently binned and subdivided to form first and second binned histograms.") recording in a second plurality of pixel value bins a second plurality of numbers of pixels that have the respective pixel values in the second region ("The histogram is subsequently binned and subdivided to form first and second binned histograms.").

Nicolas, Cornog, Pollard and Benn are combinable because they are in the same field of color image processing with specific regards to pattern recognition and combining image portions.

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to record pixel values in bins that have respective pixel values in various regions of a histogram. It would have also been obvious to combine the teachings of Nicolas, Cornog, Pollard and Benn at the time that the invention was made.

The suggestion/motivation for doing so would have been "improves efficiency, reduces computer resources and improves the quality of the analysis, is binning of the grey level histogram." at column 2, line 33, Benn.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nicolas, Cornog, Pollard and Benn to obtain the specified claimed elements of claim 3.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicolas (US 20020172417 A1) in combination with Cornog et al. (US 20030035592 A1) and further in view of Pollard (US 2004/0028271 A1), Benn (US 5734740 A) and Ruggiero et al. (US 6678408 B1).

**Regarding Claim 4:** (previously presented): Nicolas, Cornog, Pollard and Benn in combination teach all the claimed elements as rejected above. Nicolas, Cornog, Pollard and Benn in combination do not expressly teach generating a lookup table (LUT).

Ruggiero teaches a lookup table (LUT) storing a third plurality of numbers of pixels and their corresponding pixel values (Refer to Figures 6-9, further at column 7, lines 31-43).

Nicolas, Cornog, Pollard, Benn and Ruggiero are combinable because they are in the same field of color image processing and histogram processing with specific regards to pattern recognition and combining image portions.

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to generate a lookup table (LUT). It would have also been obvious to combine the teachings of Nicolas, Cornog, Pollard, Benn and Ruggiero at the time that the invention was made.

The suggestion/motivation for doing so would have been "The difference in the number of color value changes between the first and second histograms gives the system controller a relative measure of the digital noise present in the static image of that phase setting." (Ruggiero)

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nicolas, Cornog, Pollard, Benn and Ruggiero to obtain the specified claimed elements of claim 4.

7. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicolas (US 20020172417 A1) in combination with Cornog et al. (US 20030035592 A1) and further in view of Pollard (US 2004/0028271 A1) and Hasler "Modeling the Opto-Electronic Conversion Function (OECF) For Application in the Stitching of Panoramic Images, hereinafter referred to as Hasler- (MOASPI).

**Regarding Claim 11:** (original) Nicolas, Cornog and Pollard in combination teach all the claimed elements as rejected above. Nicolas, Cornog and Pollard in combination do not expressly teach the OECF is defined as: $$S(x) = x + \frac{2}{\pi} arctan\left(\frac{a\sin(\pi x)}{1 - a\cos(\pi x)}\right),$$ wherein S () is the OECF, x is a pixel value normalized to (0, 1), and a(epsilon)(-1,1) is a first color matching parameter, however,

Hasler– (MOASPI) teaches the OECF is defined as: $$S(x) = x + \frac{2}{\pi} arctan\left(\frac{a\sin(\pi x)}{1 - a\cos(\pi x)}\right),$$ wherein S() is the OECF, x is a pixel value

normalized to (0,1), and a(epsilon)(-1,1) is a first color matching parameter (Refer to Equation 1, right column, section 3, "The OECF Model").

Nicolas, Cornog, Pollard and Hasler are combinable because they are in the same field of color image processing, histogram processing and image segmenting while using a well known algorithmic function such as opto-electronic conversion functionality.

At the time the invention was made, the skilled artisan could have defined the OECF function as recited above. All the claimed elements were known in the prior art at the time of the invention.

The suggestion/motivation to combine the teachings of Nicolas, Cornog and Pollard with Hasler would have been the OECF with these definitive elements can "deliver an optimal result in a least square error sense." (Hasler, abstract).

Therefore, at the time of the invention, it would have been obvious to the skilled artisan to combine the teachings of Nicolas, Cornog and Pollard with Hasler to obtain the specified claimed elements of Claim 11.

**Regarding Claim 12** (original): Hasler– (MOASPI) teaches minimizing a color matching error defined as:

$$e = \sum_{x_1 \in R_1, x_2 \in R_2} \left\| x_1 - S^{-1}(\alpha S(x_2)) \right\|^2,$$

wherein e is the color matching error, x.sub.1 and x.sub.2 are corresponding pixel values in the first and the second regions, R.sub.1 and R.sub.2 are the first and the second regions, S( ) is the

OECF, S( ).sup.-1 is the inverse OECF, and (tau) is a second color matching parameter (Refer to Equation 2d, left column, paragraph 2, section 4 "The Error Metric").

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicolas (US 20020172417 A1) in combination with Cornog et al. (US 20030035592 A1) and Pollard (US 2004/0028271 A1) and further in view of Hasler "Modeling the Opto-Electronic Conversion Function (OECF) For Application in the Stitching of Panoramic Images, hereinafter referred to as Hasler- (MOASPI) and Press, "The Art of Scientific Computing, 10.1 Golden Search in One Dimension"-hereinafter referred to as Press.

**Regarding Claim** 13: (original): Nicolas, Cornog, Pollard and Hasler in combination teach all the claimed elements as rejected above. Nicolas, Cornog, Pollard and Hasler in combination do not expressly teach performing a golden section search of the color matching error.

Press teaches minimizing a color matching error comprises performing a golden section search of the color matching error (For example, refer to equations (10.1.6) and (10.1.7) in reference to the golden mean or golden section search examples).
Nicolas, Cornog, Pollard, Hasler and Press are combinable because they are in the same field of color image processing and combining images and general algorithm processing including well known golden section searching.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to minimize a color matching error by performing a golden section search of the color matching error.

The suggestion/motivation would have been "the golden section search guarantees that each new function evaluation will bracket minimum to an interval a precise number times the size of the preceding interval." (Hasler, page 399-400, last paragraph, final sentence).

Therefore, at the time of the invention, it would have been obvious to the skilled artisan to combine Nicolas, Cornog, Pollard, Hasler and Press to obtain the specified claimed elements of Claim 13.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nicolas (US 20020172417 A1) in combination with Hiramatsu (US 20020061142 A1) and Cornog et al. (US 20030035592 A1) and further in view of Hasler "Modeling the Opto-Electronic Conversion Function (OECF) For Application in the Stitching of Panoramic Images, hereinafter referred to as Hasler- (MOASPI).

**Regarding Claim 16** (previously presented): Nicolas teaches a method for a processor to color match a first image and a second image, wherein a first region of the first image and a second region of the second image overlap ("Only pixels of the first set of pixels are used to generate the first and the second histogram. It is assumed that based on their color, these pixels are located in regions which might correspond to relevant objects of the scene." at paragraph [0033]) the method comprising:

generating a first histogram of the first region and a second histogram of the second region after said removing ("a first histogram generating means for generating a first histogram;" at paragraph [0030])

determine corresponding pixel values from the first and the second histograms; ("It is assumed that based on their color, these pixels are located in regions which might correspond to relevant objects of the scene." at paragraph [0033])

Hiramatsu teaches removing a percentage of overlapping pixels with the greatest difference in brightness (Refer to Figure 8; also at paragraph [0061]; "FIG. 8 is a histogram of R pixel values. Where 711, which represents the top 5% of the pixels having a large R value, overlaps with 721, which is the top 10% range along the horizontal axis (pixel value axis) of the histogram 7, and the bottom 5% of the pixels having a small R value overlaps with 722, which is the bottom 10% range along the horizontal axis of the histogram 7, it is determined that extension of the R histogram 7 is not needed. Similarly, it is also determined whether extension is needed regarding the G and B histograms.")

histogram matching the first and the second histograms ("and two histograms are vertically enlarged so that the peak values for each histogram (the number of pixels) match." at paragraph [0057])

Hasler teaches minimizing a color matching error between the corresponding pixel values, wherein the color matching error is generated from an optoelectronic conversion function (OECF) (Refer to Equation 2d, left column, paragraph 2, section 4 "The Error Metric").

Cornog teaches color matching the second image to the first image by applying the OECF to the second image("A set of motion vectors then is calculated to describe the motion between the histogram of the first sequence and the histogram of the second sequence. Thus, the motion vectors so determined indicate, for each pair of Cr, Cb values, another Cr, Cb value to which it

maps. This mapping may be used to load a map for secondary color correction to allow one or more images in one of the sequences, or in another sequence, to have colors corrected to match one or more images in the other sequence." at paragraph [0089]);

It is obvious to one of ordinary skill in the art that an OECF function is well known in the art and was also known in the prior art at the time of the invention.

Nicolas does not specifically recite the phrase "color matching" as stated at page 12 of applicant's arguments. Nicolas does however teach color classification which equally corresponds with color matching as is well known in the color image processing art. The image processing performed by the apparatus and method of Nicolas is such that this invention is in the same field of pattern recognition and/or classification using color, thus one of ordinary skill in the art could easily substitute an algorithm or function such as OECF to obtain the same predictable results of color matching or color classifying images using a function that best matches or corresponds with pixel values.

This claimed limitation would have been obvious because the skilled artisan could have easily substituted the OECF function for any algorithm or routine as taught by the combination of prior art references above and this would have yielded the same predictable results to the skilled artisan to obtain the color matching results of the first and second images by applying the OECF function.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as taught by Nicolas, Hiramatsu, Cornog and Hasler by known methods

with no change in their respective functions, and the combination of those teachings would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Nicolas, Hiramatsu, Cornog and Hasler are combinable because they are in the same field of color and histogram image processing with specific regards to pattern recognition and combining image portions using well known algorithm functions with opto-electronic conversion functionality.

The suggestion/motivation for combining the teachings of Nicolas, Hiramatsu, Cornog and Hasler would have been to classify pixels via histogram processing and based on that classification, color matching, determining whether the pixels belong to texture or to flat regions by comparing 2 (two) histograms, one taking into account all the pixels with the color in the predetermined range of color values, the second one counting only these same pixels if their luminance value differs more than a given threshold form the luminance of their neighbor, at abstract Nicolas.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nicolas, Hiramatsu, Cornog and Hasler to obtain the specified claimed elements of Claim 16.

***Allowable Subject Matter***

10. Claims 5-10, 14, 15 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

11. Applicant's arguments, filed on 24 September 2009 with respect to the rejection(s) of claim(s) 1-4, 11-13 and 16 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been forwarded as detailed above.

12. Applicant's arguments at page 11, have been fully considered but they are not persuasive. Refer to the argument regarding the prior art reference Nicolas (made of record).

The Examiner will to address the arguments as stated by applicant @ page 11 of the remarks.
In summary (at page 11): The Examiner cited Nicolas, paragraph [0033], for disclosing determining corresponding pixel values from the first and the second histograms. June 23, 2009 Office Action, p. 4. Applicant respectfully traverses. Nicolas does not disclose determining corresponding pixel values from two histograms. Instead, Nicolas discloses comparing two histograms to determine if a second histogram is much lower than a first histogram or if the second histogram is substantially equal to the first histogram. Nicolas, paragraphs [0033] to [0035].

Examiner's Response: The Examiner respectfully disagrees. As stated at paragraph [0033], Nicolas teaches ("It is assumed that based on their color, these pixels are located in regions which might correspond to relevant objects of the scene." at paragraph [0033])

The limitation of claim 1 at line 6 states determining corresponding pixel values from the first and the second histograms. It is clear that "the receiving means 302 can get notified or has capabilities to extract information (emphasis added) from the video signal about the type of scene that has been imaged in order to set the appropriate range of color values of the image display apparatus 300. E.g. in the case of a football match the predetermined range of colors should match the colors of grass."

A predetermined range of colors more than fairly reads on the ability to " determine corresponding pixel values". Also as stated by the applicant, Nicolas in fact teaches a first and second histogram

as taught at paragraph [0030 and 0031]. The scope of the claim is not limited such that "corresponding pixel values" apply to more than color values of histograms hat have been extracted via a method of image processing as clearly taught at least by Nicolas. At paragraph [0030], Nicolas teaches "a first histogram generating means for generating a first histogram of luminance values of the pixels of the first set of pixels;". The Examiner is interpreting "luminance values" as corresponding pixel values for the first histogram for instance.

Nicolas does not specifically recite the phrase "color matching" as stated at page 12 of applicant's arguments. Nicolas does however teach color classification which equally corresponds with color matching as is well known in the color image processing art. The image processing performed by the apparatus and method of Nicolas is such that this invention is in the same field of pattern recognition and/or classification using color, thus one of ordinary skill in the art could easily substitute an algorithm or function such as OECF to obtain the same predictable results of color matching or color classifying images using a function that best matches or corresponds with pixel values.

13. In summary (at pages 13 and 14): Applicant respectfully submits that Examiner used impermissible hindsight in reconstructing the invention of claim 1 by using the claim as a roadmap to locate the claim elements in unrelated references dealing with different problems. This is a luxury that a skilled person when presented with the challenge of color matching overlapping images and the references of Herley, Benn et al., Pollard et al., and Nicolas simply does not have.

Examiner's Response: In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiner has found that the prior art references have been properly used to reject claims 1-4, 11-13, and 15 and further conclude that the instant claims are unpatentable in accordance with the 35 U.S.C 103(a) rejections above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mia M. Thomas whose telephone number is (571)270-1583. The examiner can normally be reached on Monday-Thursday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*/Bhavesh M Mehta/*
*Supervisory Patent Examiner, Art Unit 2624*

*/Mia M Thomas/*
*Examiner, Art Unit 2624*